APPENDIX A

Likely Population Demographics

In order to develop these tables, a number of tools were utilized. The population model developed for BLM by Dr Stephen Jenkins was the primary tool. Excel spreadsheets were used to provide some additional analysis and to portray the results in useful, comparative forms. The Excel spreadsheets are not stochastic as is Dr Jenkins model. They produce only simple, arithmetic projections and tend to overestimate growth rates somewhat as they do not mimic the random occurrence of the catastrophic extremes that make up the averages employed in the calculations. An examination of the age/sex distribution for I80 South (1999) reveals that several age classes are noticeably under-represented when compared to the expected numbers for them. This suggests that in actual experience, catastrophic events such as harsh winters play a major role in the actual population growth. All of these produce approximations of future conditions after accepting some assumptions such as birth rates, survival rates, etc. The first of these (I80S 1999) is an exception in that it has as its base a 100% census of an actual, nearby population. This is a fortuitous situation as it introduces a degree of accuracy to the data that is uncharacteristic of wild, free-roaming populations. Worthy of particular note is that specific survival rates for the Adobe Town population have not been determined.

AGE/SEX DISTRIBUTION OF I80S IN 1999				
AGE	NUMBER FEMALES	NUMBER MALES	NUMBER OF ANIMALS	PER CENT FOR AGE	CUMULATIVE PER CENT
0	80	84	164	24.5%	24.5%
1	42	54	96	14.3%	38.8%
2	44	56	100	14.9%	53.7%
3	27	14	41	6.1%	59.9%
4	29	15	44	6.6%	66.4%
5	5	7	12	1.8%	68.2%
6	21	6	27	4.0%	72.2%
7	15	13	28	4.2%	76.4%
8	15	16	31	4.6%	81.0%
9	3	15	18	2.7%	83.7%
10	10	11	21	3.1%	86.9%
11	4	20	24	3.6%	90.4%
12	14	12	26	3.9%	94.3%
13	3	6	9	1.3%	95.7%
14	3	4	7	1.0%	96.7%
15	6	4	10	1.5%	98.2%
16	1	2	3	0.4%	98.7%
17		1	1	0.1%	98.8%
18		2	2	0.3%	99.1%
19			0	0.0%	99.1%
20	1	5	6	0.9%	100.0%
21			0	0.0%	100.0%
22			0	0.0%	100.0%
23			0	0.0%	100.0%
24			0	0.0%	100.0%
25			0	0.0%	100.0%
26			0	0.0%	100.0%
27			0	0.0%	100.0%
28			0	0.0%	100.0%
29			0	0.0%	100.0%
30			0	0.0%	100.0%
TOTALS	323	347	670		
HMA	I80S			1999	
SR @ BIRTH					
(% FEMALE)	48.8%		NOTES		
AV AGE	4.4				
% FEMALE	48.2%				
% <6	68.2%				
% 6-9	15.5%				
% 10 +	16.3%				

AGE-SEX DISTRIBUTION   PROJECTED PRE-GATHER

AGE	NUMBER FEMALES	NUMBER MALES	NUMBER OF ANIMALS	PER CENT FOR AGE	CUMULATIVE PER CENT
0	214	227	441	21.2%	21.2%
1	138	148	286	13.7%	34.9%
2	145	153	298	14.3%	49.3%
3	99	115	214	10.3%	59.5%
4	77	98	175	8.4%	67.9%
5	47	23	70	3.4%	71.3%
6	50	27	77	3.7%	75.0%
7	8	13	21	1.0%	76.0%
8	36	11	47	2.3%	78.3%
9	33	22	55	2.6%	80.9%
10	30	20	50	2.4%	83.3%
11	9	48	57	2.7%	86.1%
12	20	36	56	2.7%	88.8%
13	12	44	56	2.7%	91.4%
14	29	34	63	3.0%	94.5%
15	16	19	35	1.7%	96.2%
16	9	12	21	1.0%	97.2%
17	13	12	25	1.2%	98.4%
18	8	7	15	0.7%	99.1%
19	1	3	4	0.2%	99.3%
20	1	5	6	0.3%	99.6%
21	1		1	0.0%	99.6%
22	1	5	6	0.3%	99.9%
23	2		2	0.1%	100.0%
24			0	0.0%	100.0%
25			0	0.0%	100.0%
26			0	0.0%	100.0%
27			0	0.0%	100.0%
28			0	0.0%	100.0%
29			0	0.0%	100.0%
30			0	0.0%	100.0%
TOTALS	999	1082	2081		

HMA	ADOBE TOWN	YEAR	2002
SR @ BIRTH			
(% FEMALE)	49%	# FEM 3-14	450
AV AGE	4.5	#>0	1640
% FEMALE	48%	% FEM 3-14	22%
% <6	71%	NOTES	
% 6-9	10%		
% 10 +	10%	projected total population pre gather	

AGE/SEX DISTRIBUTION (TARGET POST REMOVAL) FOR A PARTIAL POPULATION				
AGE	NUMBER FEMALES	NUMBER MALES	NUMBER OF ANIMALS	PER CENT FOR AGE	CUMULATIVE PER CENT
0	59	70	129	21.3%	21.3%
1	40	44	84	13.8%	35.1%
2	42	45	87	14.3%	49.4%
3	30	33	63	10.4%	59.8%
4	20	31	51	8.4%	68.2%
5	14	7	21	3.5%	71.7%
6	15	8	23	3.8%	75.5%
7	2	4	6	1.0%	76.4%
8	10	4	14	2.3%	78.7%
9	10	6	16	2.6%	81.4%
10	11	6	17	2.8%	84.2%
11	2	14	16	2.6%	86.8%
12	5	11	16	2.6%	89.5%
13	4	12	16	2.6%	92.1%
14	8	10	18	3.0%	95.1%
15	4	6	10	1.6%	96.7%
16	2	4	6	1.0%	97.7%
17	4	3	7	1.2%	98.8%
18	2	2	4	0.7%	99.5%
19		1	1	0.2%	99.7%
20		1	1	0.2%	99.8%
21			0	0.0%	99.8%
22		1	1	0.2%	100.0%
23			0	0.0%	100.0%
24			0	0.0%	100.0%
25			0	0.0%	100.0%
26			0	0.0%	100.0%
27			0	0.0%	100.0%
28			0	0.0%	100.0%
29			0	0.0%	100.0%
30			0	0.0%	100.0%
TOTALS	284	323	607		
HMA	ADOBE TOWN		YEAR	2002	
SR @ BIRTH					
(% FEMALE)	46%	# FEM 3-14	131		
AV AGE	4.4	#>0	478		
% FEMALE	47%	% FEM 3-14	22%		
% <6	72%	NOTES			
% 6-9	10%				
% 10 +	19%	probable post gather			

AGE	NUMBER FEMALES	NUMBER MALES	NUMBER OF ANIMALS	PER CENT FOR AGE	CUMULATIVE PER CENT
AGE/SEX DISTRIBUTION (2002 POST GATHER TARGET INCLUDING UNWEANED FOALS BORN IN 2002)					
0	72	84	156	21.5%	21.5%
1	54	64	118	16.2%	37.7%
2	37	40	77	10.6%	48.3%
3	40	43	83	11.4%	59.7%
4	29	31	60	8.3%	68.0%
5	19	30	49	6.7%	74.7%
6	13	7	20	2.8%	77.4%
7	14	8	22	3.0%	80.5%
8	2	4	6	0.8%	81.3%
9	9	4	13	1.8%	83.1%
10	9	6	15	2.1%	85.1%
11	10	6	16	2.2%	87.3%
12	2	13	15	2.1%	89.4%
13	5	10	15	2.1%	91.5%
14	4	11	15	2.1%	93.5%
15	8	9	17	2.3%	95.9%
16	4	6	10	1.4%	97.2%
17	2	4	6	0.8%	98.1%
18	4	3	7	1.0%	99.0%
19	2	2	4	0.6%	99.6%
20		1	1	0.1%	99.7%
21		1	1	0.1%	99.9%
22			0	0.0%	99.9%
23		1	1	0.1%	100.0%
24			0	0.0%	100.0%
25			0	0.0%	100.0%
26			0	0.0%	100.0%
27			0	0.0%	100.0%
28			0	0.0%	100.0%
29			0	0.0%	100.0%
30			0	0.0%	100.0%
TOTALS	339	388	727		
HMA	Adobe Town		YEAR	Fall 2002	
SR @ BIRTH					
(% FEMALE)	46%	# FEM 3-14	156		
AV AGE	4.5	#>0	571		
% FEMALE	47%	% FEM 3-14	21%		
% <6	75%	NOTES			
% 6-9	8%	Post gather target incl UW foals			

% 10 +	17%		

AGE/SEX DISTRIBUTION (PROJECTED POPULATION GROWTH AFTER PROPOSED REMOVAL)								
AGE	NUMBER FEMALES	NUMBER MALES	NUMBER ANIMALS	PER CENT FOR AGE	CUMULATIVE PER CENT	NUMBER 2003	NUMBER 2004	NUMBER 2005
0	72	84	156	21.5%	21.5%	189	230	278
1	54	64	118	16.2%	37.7%	143	174	210
2	37	40	77	10.6%	48.3%	108	136	165
3	40	43	83	11.4%	59.7%	73	103	129
4	29	31	60	8.3%	68.0%	79	70	98
5	19	30	49	6.7%	74.7%	57	75	66
6	13	7	20	2.8%	77.4%	47	54	71
7	14	8	22	3.0%	80.5%	19	44	52
8	2	4	6	0.8%	81.3%	21	18	42
9	9	4	13	1.8%	83.1%	6	20	17
10	9	6	15	2.1%	85.1%	12	5	19
11	10	6	16	2.2%	87.3%	14	12	5
12	2	13	15	2.1%	89.4%	15	14	11
13	5	10	15	2.1%	91.5%	14	14	13
14	4	11	15	2.1%	93.5%	14	14	14
15	8	9	17	2.3%	95.9%	14	14	13
16	4	6	10	1.4%	97.2%	16	14	13
17	2	4	6	0.8%	98.1%	10	15	13
18	4	3	7	1.0%	99.0%	6	9	15
19	2	2	4	0.6%	99.6%	7	5	9
20		1	1	0.1%	99.7%	4	6	5
21		1	1	0.1%	99.9%	1	4	6
22			0	0.0%	99.9%	1	1	3
23		1	1	0.1%	100.0%	0	1	1
24			0	0.0%	100.0%	1	0	1
25			0	0.0%	100.0%	0	1	0
26			0	0.0%	100.0%	0	0	1
27			0	0.0%	100.0%	0	0	0
28			0	0.0%	100.0%	0	0	0
29			0	0.0%	100.0%	0	0	0
30			0	0.0%	100.0%	0	0	0
TOTALS	339	388	727			871	1051	1271

HMA	Adobe Town		YEAR	2002 +	
SR @ BIRTH					
(% FEMALE)	46%	# FEM 3-14	156		
AV AGE	4.5	#>0	571		
% FEMALE	47%	% FEM 3-14	21%		
% <6	75%	NOTES	SRs .917, .951		
% 6-9	8%	Doesn't incorporate the possibility of any large die-offs such as a tough winter or prolonged drought would produce.			
% 10 +	17%				